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EXAMINER	
CHOI, WILLIAM C	
ART UNIT	**PAPER NUMBER**
2873	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/681,538	Applicant(s) LIN ET AL.	
	Examiner William C. Choi	Art Unit 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 28 February 2005.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-44 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) 1,5,7,11,13-15,19,21-26,30,32-35,39,41,42 and 44 is/are rejected.
7)☒ Claim(s) 2-4,6,8-10,12,16-18,20,27-29,31,36-38,40 and 43 is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on 02 August 2002 is/are: a)☒ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☐ All b)☐ Some * c)☐ None of:
1.☐ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 1104.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

Receipt of the Information Disclosure Statement (IDS) with copies of the references cited therein, was received on 11/26/2004. An initialized copy of the IDS is enclosed with this office action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 7, 11, 13-15, 19, 21-26, 30, 32-35, 39 and 41, 42 and 44 are rejected under 35 U.S.C. 102(b) as being anticipated by Tench et al (U.S. 6,400,491 B1).

In regard to claim 1, Tench et al discloses a reversible electrodeposition device (column 6, lines 7-9, Figure 1), comprising: a first substrate (column 6, line 14, Figure 1, "102") having an electrically conductive material associated therewith (column 6, lines 17-18, Figure 1, "106"); a second substrate (column 6, line 17, Figure 1, "104") having an electrically conductive material associated therewith (column 6, lines 21-23, Figure 1, "110"); a nucleation layer at least partially covering at least one of the electrically conductive materials of the first and second substrates (column 7, line 33, Figure 1, "108"); an electrochemical medium contained within a chamber positioned between the first and second substrates (column 6, lines 38-39, Figure 1, "112") which comprises: at least one solvent (column 6, lines 39-40); an anodic electroactive material (column 6, lines 42-43); a cathodic electroactive material (column 6, lines 40-42); and a redox buffer (column 8, line 52 – column 9, line 25).

Regarding claims 5 and 11, Tench et al discloses wherein the cathodic material comprises a salt of an active metal (column 5, lines 24-28).

Regarding claim 7, Tench et al discloses wherein the electrochemical medium further comprises a complexing agent (column 14, lines 17-23).

Regarding claim 13, Tench et al discloses wherein the device is an electrochromic window (column 1, lines 17-18).

In regard to claim 14, Tench et al discloses a reversible electrodeposition device (column 6, lines 7-9, Figure 1), comprising: a first substrate (column 6, line 14, Figure 1, "102") having an electrically conductive material associated therewith (column 6, lines 17-18, Figure 1, "106"); a second substrate (column 6, line 17, Figure 1, "104") having an electrically conductive material associated therewith (column 6, lines 21-23, Figure 1, "110"); a nucleation layer at least partially covering at least one of the electrically conductive materials of the first and second substrates (column 7, line 33, Figure 1, "108"); an electrochemical medium contained within a chamber positioned between the first and second substrates (column 6, lines 38-39, Figure 1, "112") which comprises: at least one solvent (column 6, lines 39-40); an anodic electroactive material (column 6, lines

42-43); a cathodic electroactive material (column 6, lines 40-42), wherein the concentration of the anodic electroactive material is greater than the cathodic electroactive material, to, in turn, enhance the electrochemical performance of the electrodeposition device (column 5, lines 28-32).

Regarding claim 15, Tench et al discloses wherein the electrochemical medium further comprises a redox buffer (column 8, line 52 – column 9, line 25).

Regarding claim 19, Tench et al discloses wherein the cathodic material comprises a salt of an active metal (column 5, lines 24-28).

Regarding claim 21, Tench et al discloses wherein the electrochemical medium further comprises a complexing agent (column 14, lines 17-23).

Regarding claim 22, Tench et al discloses wherein the device is an electrochromic window (column 1, lines 17-18).

In regard to claim 23, Tench et al discloses a reversible electrodeposition device (column 6, lines 7-9, Figure 1), comprising: a first substrate (column 6, line 14, Figure 1, "102") having an electrically conductive material associated therewith (column 6, lines 17-18, Figure 1, "106"); a second substrate (column 6, line 17, Figure 1, "104") having an electrically conductive material associated therewith (column 6, lines 21-23, Figure 1, "110"); a nucleation layer at least partially associated with at least one of the electrically conductive materials of the first and second substrates(column 7, line 33, Figure 1, "108"); an electrochemical medium contained within a chamber positioned between the first and second substrates (column 6, lines 38-39, Figure 1, "112") which comprises: at least one solvent (column 6, lines 39-40); an anodic electroactive material (column 6, lines 42-43); a cathodic electroactive material (column 6, lines 40-42), wherein the concentration of the anodic electroactive material is greater than the cathodic electroactive material (column 5, lines 28-32); and a redox buffer (column 8, line 52 – column 9, line 25).

In regard to claim 24, Tench et al discloses a reversible electrodeposition device (column 6, lines 7-9, Figure 1), comprising: a first substrate (column 6, line 14, Figure 1, "102") having an electrically conductive material associated therewith (column 6, lines 17-18, Figure 1, "106"); a second substrate (column 6, line 17, Figure 1, "104") having an electrically conductive material associated therewith (column 6, lines 21-23, Figure 1, "110"); a nucleation layer at least partially covering at least one of the electrically conductive materials of the first and second substrates (column 7, line 33, Figure 1, "108"); an electrochemical medium contained within a chamber positioned between the first and second substrates (column 6, lines 38-39, Figure 1, "112") which comprises: at least one solvent (column 6, lines 39-40); an anodic electroactive material (column 6, lines 42-43); a cathodic electroactive material (column 6, lines 40-42); and means associated with the electrochemical medium which enhances the electrochemical performance of the electrodeposition device (column 8, line 52 – column 9, line 25).

In regard to claim 25, Tench et al discloses a reversible electrodeposition window having a non-patterned electrode (column 1, lines 17-18), comprising: a first electrode (column 6, lines 17-18, Figure 1, "106") comprising a first substrate having an electrically conductive material associated therewith (column 6, line

14, Figure 1, "102"); a second, non-patterned electrode (column 6, lines 21-23, Figure 1, "110") comprising a second substrate having an electrically conductive material associated therewith (column 6, line 17, Figure 1, "104"); a nucleation layer at least partially covering the electrically conductive material of the first substrate (column 7, line 33, Figure 1, "108"); an electrochemical medium contained within a chamber positioned between the first and second substrates (column 6, lines 38-39, Figure 1, "112") with comprises: at least one solvent (column 6, lines 39-40); an anodic electroactive material (column 6, lines 42-43); a cathodic electroactive material (column 6, lines 40-42).

Regarding claim 26, Tench et al discloses wherein the electrochemical medium further comprises a redox buffer (column 8, line 52 – column 9, line 25).

Regarding claim 30, Tench et al discloses wherein the cathodic material comprises a salt of an active metal (column 5, lines 24-28).

Regarding claim 32, Tench et al discloses wherein the concentration of the anodic electroactive material is greater than the cathodic electroactive material (column 5, lines 28-32).

Regarding claim 33, Tench et al discloses wherein the electrochemical medium further comprises a complexing agent (column 14, lines 17-23).

In regard to claim 34, Tench et al discloses a reversible electrodeposition device having a non-patterned electrode (column 1, lines 17-18 & column 6, lines 7-9, Figure 1), comprising: a first electrode (column 6, lines 17-18, Figure 1, "106") comprising a first substrate having an electrically conductive material associated therewith (column 6, line 14, Figure 1, "102"); a second, non-patterned electrode (column 6, lines 21-23, Figure 1, "110") comprising a second substrate having an electrically conductive material associated therewith (column 6, line 17, Figure 1, "104"); a nucleation layer at least partially covering the electrically conductive material of the first substrate (column 7, line 33, Figure 1, "108"); an electrochemical medium contained within a chamber positioned between the first and second substrates (column 6, lines 38-39, Figure 1, "112") with comprises: at least one solvent (column 6, lines 39-40); at least one anodic electroactive material, wherein the at least one anodic electroactive material is present in solution phase (column 6, lines 42-43); and a cathodic electroactive material (column 6, lines 40-42).

Regarding claim 35, Tench et al discloses wherein the electrochemical medium further comprises a redox buffer (column 8, line 52 – column 9, line 25).

Regarding claim 39, Tench et al discloses wherein the cathodic material comprises a salt of an active metal (column 5, lines 24-28).

Regarding claim 41, Tench et al discloses wherein the concentration of the at least one anodic electroactive material is greater than the cathodic electroactive material (column 5, lines 28-32).

Regarding claim 42, Tench et al discloses wherein the electrochemical medium further comprises a complexing agent (column 14, lines 17-23).

Regarding claim 44, Tench et al discloses wherein the device comprises a window (column 1, lines 17-18).

Allowable Subject Matter

Claims 2-4, 6, 8-10, 12, 16-18, 20, 27-29, 31, 36-38, 40 and 43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a combination of all the claimed features as presented in claims 2 and 8: a reversible electrodeposition device comprising an electrochemical medium, which comprises a redox buffer as claimed, specifically wherein said buffer is more easily reduced than the cathodic material.

The prior art fails to teach a combination of all the claimed features as presented in claims 3 and 9: a reversible electrodeposition device comprising an electrochemical medium, which comprises a redox buffer as claimed, specifically wherein said buffer is more easily oxidized than the anodic material.

The prior art fails to teach a combination of all the claimed features as presented in claims 4 and 10: a reversible electrodeposition device comprising an electrochemical medium, which comprises a redox buffer as claimed, specifically wherein said buffer comprises: a first component that is more easily reduced than the cathodic material; and a second component that is more easily oxidized than the anodic material.

The prior art fails to teach a combination of all the claimed features as presented in claims 6 and 12: a reversible electrodeposition device comprising an electrochemical medium, which comprises a redox buffer as claimed, specifically wherein the concentration of the redox buffer ranges from approximately 1mM to approximately 50 mM.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a combination of all the claimed features as presented in claim 16: a reversible electrodeposition device comprising an electrochemical medium, which comprises a redox buffer as claimed, specifically wherein said buffer is more easily reduced than the cathodic material.

The prior art fails to teach a combination of all the claimed features as presented in claim 17: a reversible electrodeposition device comprising an electrochemical medium, which comprises a redox buffer as claimed, specifically wherein said buffer is more easily oxidized than the anodic material.

The prior art fails to teach a combination of all the claimed features as presented in claim 18: a reversible electrodeposition device comprising an electrochemical medium, which comprises a redox buffer as claimed, specifically wherein said buffer comprises: a first component that is more easily reduced than the cathodic material; and a second component that is more easily oxidized than the anodic material.

The prior art fails to teach a combination of all the claimed features as presented in claim 20: a reversible electrodeposition device comprising an electrochemical medium, which comprises a redox buffer as claimed, specifically wherein the concentration of the redox buffer ranges from approximately 1mM to approximately 50 mM.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a combination of all the claimed features as presented in claim 27: a reversible electrodeposition window comprising an electrochemical medium, which comprises a redox buffer as claimed, specifically wherein said buffer is more easily reduced than the cathodic material.

The prior art fails to teach a combination of all the claimed features as presented in claim 28: a reversible electrodeposition window comprising an electrochemical medium, which comprises a redox buffer as claimed, specifically wherein said buffer is more easily oxidized than the anodic material.

The prior art fails to teach a combination of all the claimed features as presented in claim 29: a reversible electrodeposition window comprising an electrochemical medium, which comprises a redox buffer as claimed, specifically wherein said buffer comprises: a first component that is more easily reduced than the cathodic material; and a second component that is more easily oxidized than the anodic material.

The prior art fails to teach a combination of all the claimed features as presented in claim 31: a reversible electrodeposition window comprising an electrochemical medium, which comprises a redox buffer as claimed, specifically wherein the concentration of the redox buffer ranges from approximately 1mM to approximately 50 mM.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a combination of all the claimed features as presented in claim 36: a reversible electrodeposition device comprising an electrochemical medium, which comprises a redox buffer as claimed, specifically wherein said buffer is more easily reduced than the cathodic material.

The prior art fails to teach a combination of all the claimed features as presented in claim 37: a reversible electrodeposition device comprising an electrochemical medium, which comprises a redox buffer as claimed, specifically wherein said buffer is more easily oxidized than the anodic material.

The prior art fails to teach a combination of all the claimed features as presented in claim 38: a reversible electrodeposition device comprising an electrochemical medium, which comprises a redox buffer as claimed, specifically wherein said buffer comprises: a first component that is more easily reduced than the cathodic material; and a second component that is more easily oxidized than the anodic material.

The prior art fails to teach a combination of all the claimed features as presented in claim 40: a reversible electrodeposition device comprising an electrochemical medium, which comprises a redox buffer as claimed, specifically wherein the concentration of the redox buffer ranges from approximately 1mM to approximately 50 mM.

The prior art fails to teach a combination of all the claimed features as presented in claim 43: a reversible electrodeposition device comprising an electrochemical medium, which comprises a redox buffer as claimed, specifically wherein the electrochemical medium comprises at least one surface attached anodic material.

Response to Arguments

Applicant's arguments with respect to claims 1-44 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Choi whose telephone number is (571) 272-2324. The examiner can normally be reached on Monday-Friday from about 9:00 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

William Choi
Patent Examiner
Art Unit 2873
May 9, 2005

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